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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,573	07/01/2004	Hiroshi Aruga	032404-080	4787

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EXAMINER

TRAN, TAN N

ART UNIT PAPER NUMBER

2826

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/500,573

Applicant(s)

ARUGA ET AL

Examiner

TAN N. TRAN

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Minhloan Tran*  
**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01 July 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### **Specification**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### **Drawings**

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, an optical semiconductor element as recited in claim 1, a first member and a second member as recited in claim 3, a light passing hole as recited in claim 11, semiconductor element and an integrated circuit as recited in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### **Claim Rejections - 35 USC § 112**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3,9,10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, lines 4,5, what does applicant mean by “a coefficient of thermal expansion of the first member is substantially equal to a coefficient of thermal expansion of the dielectric”? is indefinite because it does not clearly set forth the metes and bounds of the patent protection desired. Note *In re Hammack* 166 USQ 240 (CCPA 1970) and *In re Moore*, 169 USPQ 236 (CCPA 1971), claims must be analyzed to determine their metes and bounds so that, it is clear from the claim language what subject matter the claims encompass.

In claim 9, lines 2,3, “stubs are formed on the pair of differential lines on the differential line substrate” is unclear as to whether it is being referred to the stubs are formed on the pair of differential line substrates.

### **Claim Rejections - 35 USC § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Oikawa (6,074,102).

Oikawa discloses an optical semiconductor package that contains an optical semiconductor element 24 and an integrated circuit 26 which transmits and receives differential

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signals to and from the optical semiconductor element 24, the optical semiconductor package comprising: a dielectric (GP) sealed into and fixed to a wall surface of the package, and having a pair of pin insertion holes 30E; and a pair of signal pins (28,32) that penetrate through and fit into the pair of pin insertion holes 30E, and constituting differential lines, wherein differential signals are transmitted and received to and from the integrated circuit through the pair of signal pins (28,32). (Note attachment #1, fig. 3 of Oikawa).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,4-6,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (6,074,102).

With regard to claims 1,2, Oikawa discloses an optical semiconductor package for packaging therein an optical semiconductor element comprising a stem 30 with a hole 30C; a glass dielectric material (GP) sealed into the hole 30C of the stem 30, and with a pair of pin insertion holes 30E; and a pair of signal pins (28,32) that penetrate through and fit into the pair of pin insertion holes 30E of the glass dielectric material (GP), and that constitute differential lines electrically connected to the optical semiconductor element 24. (Note attachment #1, fig. 3 of Oikawa).

Oikawa discloses all the claimed subject matter except for a pair of signal pins (28,32) to be a pair of high frequency signal pins. However, it would have been obvious to one of ordinary skill in the art to form a pair of signal pins to be a pair of high frequency signal pins in order to increase a high-speed operation of the optical device.

With regard to claims 4,5, Oikawa discloses all claimed invention as in claim 1, except the dielectric is transparent or semitransparent and the hole in the stem has one of an oval, elliptic or cocoon shape. However, although Oikawa does not teach exact the material of the dielectric and shape of the hole as that claimed by Applicant, the material and shape differences are considered obvious design choices and are not patentable unless unobvious or expected results are obtained from these changes. It appears that these changes produce no functional differences and therefore would have been obvious. Note in re Leshin, 125 USPQ 416.

With regard to claim 6, Oikawa discloses a ground member 34 in parallel to the pair of the signal pins (28,32) is provided on the stem 30. (Note attachment #1, fig. 3 of Oikawa).

With regard to claim 11, Oikawa discloses a cap 40 that includes a light passing hole 40A and that airtight closes an internal space including the optical semiconductor element 24 by fixing an end portion to the stem 30. (Note attachment #1, fig. 3 of Oikawa).

#### Allowable Subject Matter

6. Claims 3,9,10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 3,9,10 are allowable over the prior art of record because none of these references disclose or can be combined to yield the claimed invention such as a first member arranged on

an outside of the dielectric wherein a coefficient of thermal expansion of the dielectric; and a second member arranged on an outside of the first member wherein a thermal conduction of the second member is higher than that of the first member as recited in claim 3.

7. Claims 7,8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7,8 are allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as the pair of high frequency signal pins between the pair of ground pins as recited in claim 7, a differential line substrate having a one end side connected to the pair of high frequency signal pins and an other end side connected to the pair of electrodes of the optical semiconductor element; a pair of inductance elements having one end sides connected to the pair of electrodes of the optical semiconductor element, respectively, and having other end sides connected to an external bias current source as recited in claim 8.

### Conclusion

8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tan Tran whose telephone number is (571) 272-1923. The examiner can normally be reached on M-F 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for after final communications.

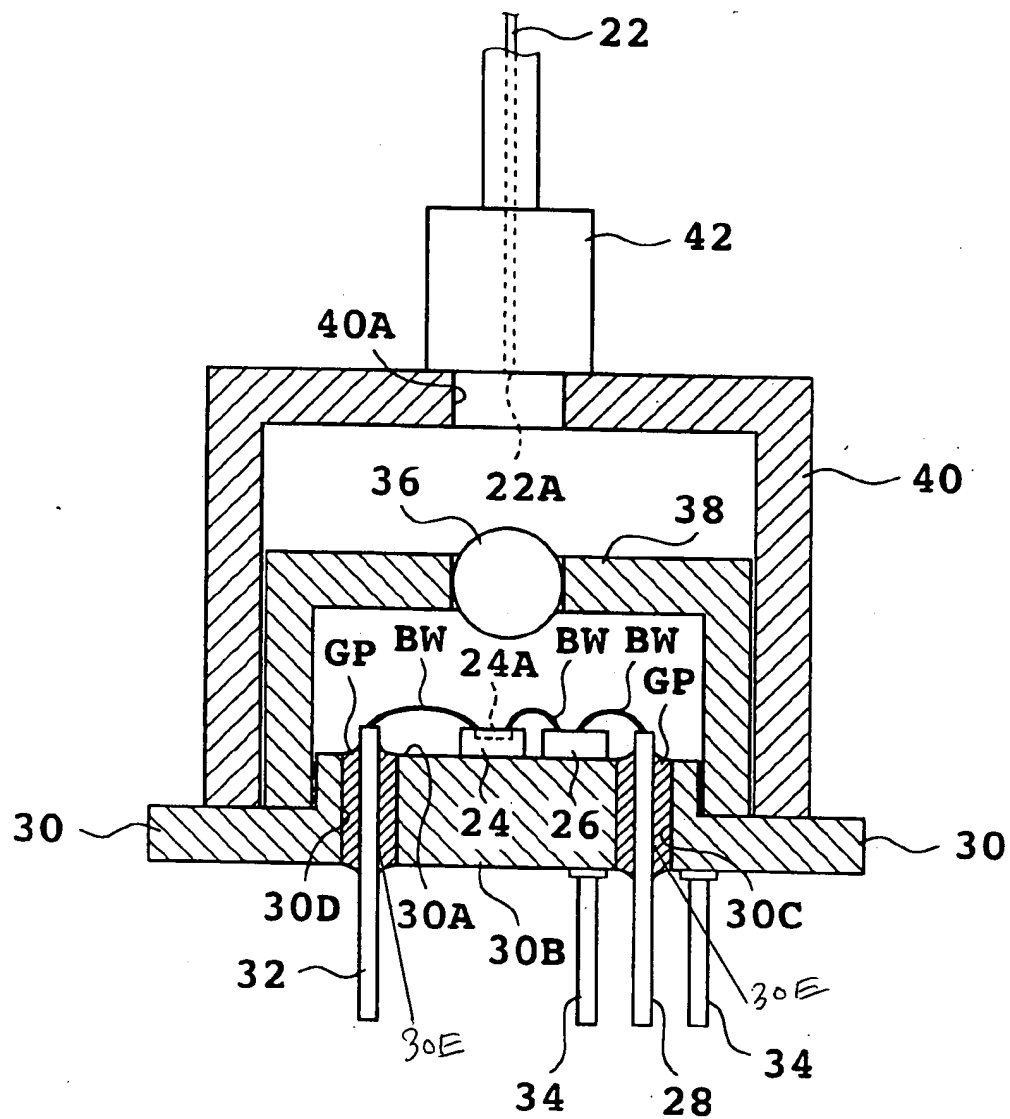
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TT

June 2005



# FIG. 3



Attachment # 1